CACTUS AND SUCCULENT JOURNAL

Of the Cactus And Succulent Society Of America

Vol. III JUNE, 1932 No. 12

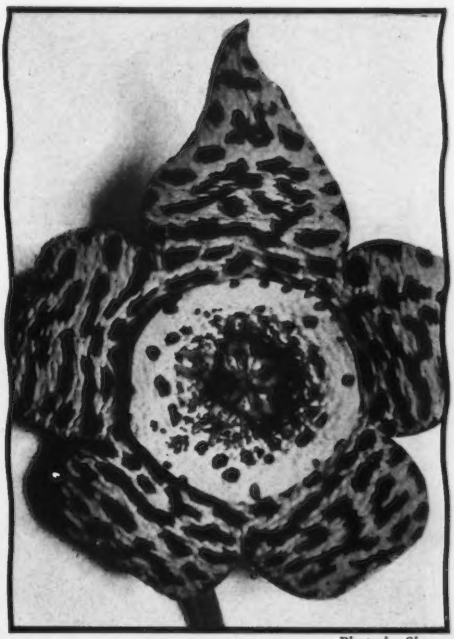

Photo by Sloane

FIG. 48. Hybrid of *Stapelia variegata* showing absence of lines between spots. x 1.5

Price 35c

CACTUS AND SUCCULENT JOURNAL

Published and Owned by

THE CACTUS AND SUCCULENT SOCIETY OF AMERICA

A monthly magazine to promote the Society and devoted to Cacti and Succulents for the dissemination of knowledge and the recording of hitherto unpublished data in order that the culture and study of these particular plants may attain the popularity which is justly theirs. "The Cactaceae," by N. L. Britton and J. N. Rose, has been adopted by this journal for purposes of identification. (Membership and subscription $3.00 per year, foreign $3.00 per year.) Mail membership application and subscription to the Secretary, Margaret Kincher, 1421 Dominion Avenue, Pasadena, California.

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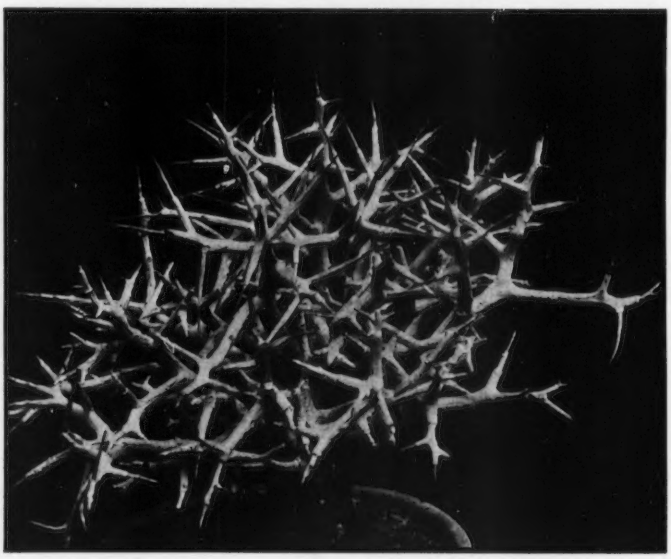
VOLUME III JUNE, 1932 NUMBER 12

ACACIA KARROO OR EUPHORBIA LIGNOSA?



The plant illustrated on page 171 of the April issue of the JOURNAL, is not a *Euphorbia,* but an *Acacia.* This species is undoubtedly *Acacia karroo* which is native to South East Africa. The natural appearance of this plant is not brought out in this photograph, as the marked leafless condition showing the spiniferous character of the branches is only noticeable for a very short time during the African winter, which is August, for when the plant is not dormant it is entirely covered with leaves greatly hiding the spines.

Acacia karroo occurs in the most arid portions of South East Africa, around Matjesfontein where *Euphorbias* and *Mesembrianthemums* seem to predominate. A good photograph of this plant showing the habit of growth, and taken in its native habitat, may be seen in W. A. Cannon's "South African Botany". Dried specimens of *Acacia karroo* have been known among a few of the older collectors of Southern California as a novelty, but not as a Succulent. —G. A. FRICK.

The *Euphorbia* figured on page 171 of the CACTUS JOURNAL is *Euphorbia lignosa,* Marloth. The description of *E. lignosa* is to be found in the Flora Capensis and the nativity is Great Namaqualand. —N. E. BROWN.

Photo By Dickson & Thurber

FIG. 47. Bursting seed pods of *Duvalia polita.* x .6

The Stapelieae

10. Stapelia (*Orbea* Section) *Continued*

By ALAIN WHITE *and* BOYD L. SLOANE

First, let us speak of the general form of the corolla lobes. In general, they are short and widely pointed. In *S. variegata var. retusa* N. E. Br., they become narrow and pointed. Fig. 42 (a)*[1] shows a flower of this relationship, though not a true *retusa.* In other cases the lobes retain their usual shape, except that the actual tips are sharply pointed.

The colors of the lobes are usually an ochreous yellow ground, with purple brown markings. But these colors vary very much, as indicated in our Key. In the case of *Stapelia variegata var. laeta* N. E. Br., the color of the markings is a brilliant crimson brown. In other cases, as in the *var. atrata,* the entire lobes are

*[1]Cactus Journal Vol. III, No. 11, pg. 184.

a dark purple brown and the markings reduced to a few irregular yellow lines.

The size and shape of the markings also vary greatly. In the type of *S. variegata* they are

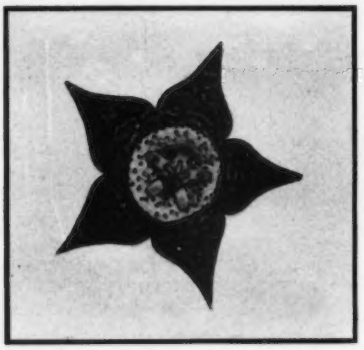


Photo by Sloane

FIG. 49. *Stapelia* commonly called *bicolor*. x .75

fairly small round spots irregularly distributed, sometimes joined by fainter lines. In the original drawings made by Justus Heurnius, which we reproduced in Fig. 36 *[2] from van Stapel's edition of 1644, the markings are indicated by little crosses arranged in five concentric circles. Their regular position is said to be corroborated by the herbarium specimen of Linnaeus, and a *variety normalis* Jacq. has been described retaining this regular placement of the markings. Berger retains it as a distinct variety, but N. E. Brown does not. It would seem probable that Heurnius' drawing is at least in part conventionalized, and the matter of whether such a separate variety exists is not very important.

In some other varieties the markings are more thickly grouped at the center of the corolla, sometimes becoming markedly confluent, as in *S. variegata var. picta* N. E. Br. In nearly all cases the markings, irrespective of their size,

*2Cactus Journal Vol. III, No. 10, pg. 157.

Photo by Sloane

FIG. 51. Stems of plant commonly called *Stapelia bufonia* x .75

are at least partly connected by faint lines, which sometimes become quite prominent. We have found only one flower where all the spots were uniformly independent, with no connecting lines of any kind. This is shown in Fig. 48 and conforms to none of the published descriptions.

The variegata rings vary both in shape and

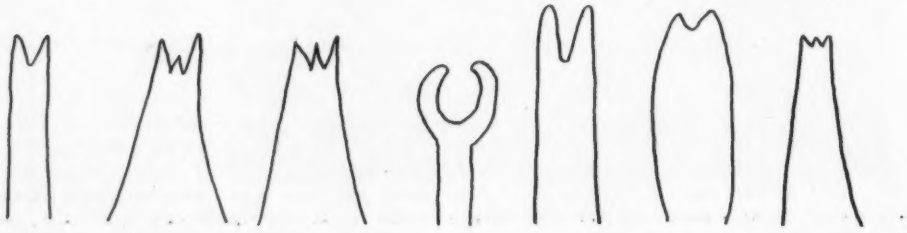


FIG. 50. Outer corona lobes of *Orbea* Section of *Stapelieae* x 4.

Photo by Sloane

FIG. 52. *Stapelia variegata* crest x .25

color. They are usually slightly pentagonal, or quite round, and rather flat. Sometimes they are rolled over at the top, and often the pentagonal shape becomes much more angular and prominent. In some cases there are noticeable indentations in the flat top surface.

The coloring of the rings is usually fainter than that of the lobes, and the markings smaller. In a few cases the coloring is very distinct and such forms are often called *bicolor*, though in other respects the flowers do not agree with the descriptions of that species.

Very characteristic and variable too, are the corona lobes. Indeed, Rüst founded the basis

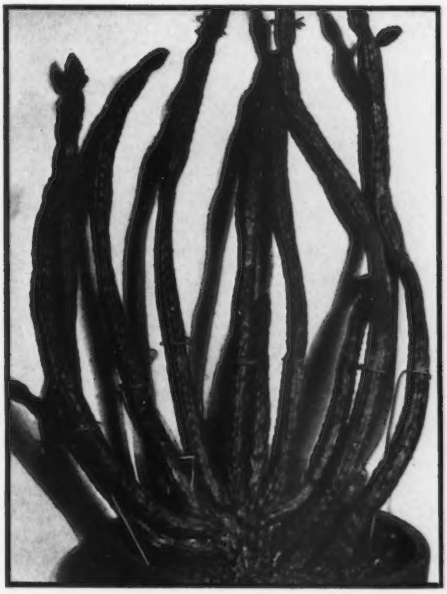


Photo by Sloane

FIG 53. *Echidnopsis* crest x .2

of his key on the shapes of the outer corona lobes. We too have found it convenient to group the flowers we have examined according to the outer corona lobes, and we have reproduced in Fig. 50 some of the principal types we have come across. The reader can profitably interest himself trying to find others. Our findings do not check at all with those of Rüst. The material at hand is doubtless too meager in proportion to the great number of existing forms, and we must end our account of the variegata flowers just where we began it, by

Photo by West

FIG. 54. *Caralluma leendertziae* crested seedling x 1.7

Photo by Sloane

FIG. 55. *Huernia primulina* crest. x .6

saying that they defy description.

We have not spoken of the *Orbea* stems, for we described them in the October Journal, and there is exceedingly little variation among them. There is one type with tips more slender and less pronouncedly toothed than the rest, shown in Fig. 51, but we have been unable to identify it. It is known locally as *Stapelia bufonia,* the "toad-like Stapelia", but it does not conform to N. E. Brown's description of the variety which bears that name. We believe Fig. 44 (b)*[3] shows the true flower of *S. variegata* var. *bufonia* N. E. Br. It is interesting to note in passing that some writers have incorrectly applied the name *Stapelia bufonia* as a synonym for *Stapelia variegata,* and from this confusion has probably arisen the popular name of Toad Cactus for *S. variegata* in general, *bufo* being the Latin word for toad.

Orbea stems have one interesting trait. They crest very easily, and fanciful developments, like that shown in Fig. 52, are not rare. In fact a good many of the STAPELIEAE occasionally crest, though not as readily as does *S. variegata.* It may not be out of place to include here an illustration of an *Echidnopsis* crest grown by G. A. Frick, a quaint *Caralluma* seedling from the collection of James West, and a *Huernia.*

Finally a word as to the seed pods of the *Orbeas.* They are effective in appearance, and one may wonder whether the name "Cow's Horns", which the Japanese apply to the Stapelias in general, may not be derived from their distinctive forkings. At least we are told by Mrs. van der Bijl that the children at the Cape call these pods "Goat's Horns",—Bok-horingkies,—and that they are always eager to eat them.

To watch the seed pods of any Asclepiad open and the myriad seeds unfold, each one hanging for a time in expectancy and then, squadron by squadron, all sailing forth into the unknown, borne on the wings of the lightest breeze, is an experience never to be forgotten. The seed-flights of the STAPELIEAE are no exceptions in beauty or in their appeal to the imagination. It is impossible to give an ade-

Photo by Sloane

FIG. 56. *Stapelia variegata* seed pods. x .4

quate idea of the miracle by photography, because the essence of it all is motion; but a hint may be caught in Fig. 47, where some seeds of a *Duvalia polita* N. E. Br. have just issued from the pod and are awaiting the call of the first puff of air to begin their colonizing ventures.

*[3]Cactus Journal Vol. III, No. 11, pg. 185.

NEW PLANT AND SEED LISTS

ALBERT SCHENKEL, Hamburg 1, Raboisen 33: 24 pg. seed list. (Free).

LONG BEACH WATER GARDENS, 6341 Cherry St., Long Beach, Calif.; 14 pgs. devoted to cacti and other succulents. (Free).

HOWARD E. GATES, 119 S. Illinois St., Anaheim, Calif.: List free. U. S. and Lower Calif. cacti.

EDITOR'S NOTE: Price lists will be mentioned as received. When writing to these dealers kindly mention the JOURNAL. Books received by the Society will be reviewed by the staff and retained for the library of the Society.

Book Review

NEUE KAKTEEN. JAGDEN, ARTEN, KULTUR. Von Curt Backeberg. Unter Mitwirkung von Dr. E. Werdermann. 109 pp., 96 Ill. *Trowitzsch & Sohn*, Frankfurt (Oder) 1931. RM 3.75 ($0.90) (boards); RM 5.50 ($1.35) (linen).

A new book by Mr. Backeberg is always welcome, because it is sure, for one thing, to be beautifully illustrated, for another, to acquaint us with many Cacti as yet absent or very scarce in our American collections.

The present slim volume gives in its first part some chapters out of a collector's experiences, principally in Northwestern South America, but with some mention of Mexico and Venezuela. It describes modes of travel, scenery, climate and all the trials and tribulations which are the lot of those who wander in far places in quest of plants and seeds. Intermingled with these are cacticultural disquisitions.

Interesting among the latter are the observations on the influence of the freshness or otherwise of seed on germination, with the conclusion that in many cases seeds, particularly of Cereanae, will not germinate well until they have aged for several years. This tallies with our own experiences with some of the Peruvian species, among them *Neoraimondia macrostibas, Espostoa lanata, Browningia candelaris, Binghamia melanostele* and others, which germinated very badly from fresh seed, while in a letter Mr. Backeberg assures us that since then, about three years after collection, the average percentage of germination has risen considerably; for instance the very poorly germinating *Espostoa sericata* now (February 1932) shows 30% at 25° C, while *Leocereus microspermus* has risen in a year's aging from scarcely 2% to 70%.

In connection with this, another interesting point is made on the advantages of seedling-graftage. The author advises us to graft seedlings as soon as they show the first bristles, preferably on the tip of strong-growing young Cereus seedlings, then, when they grow, to behead them, and re-graft lower down on fresh stock, leaving the seedling's stump to produce more heads. In this way a very few seedlings of a rare or poorly germinating species may be made to produce a considerable stock of plants. To judge from a photograph of a grafted *Astrophytum asterias* seedling next to one of the same age on its own roots, reproduced in the book, the speeding-up of the rate of growth does indeed seem almost miraculous, amounting to several hundred per cent in a few weeks.

The second half of the book contains a tabulation by Dr. E. Werdermann, Curator of the Botanical Museum of the University of Berlin and President of the German Cactus Society, of (1) The new species of Mr. Backeberg's collection described by himself and formally published here, (2) the new species described elsewhere in the literature subsequent to the publication of Berger's KAKTEEN, or not contained in it, and (3) other older species collected or re-introduced by Mr. Backeberg.

In criticism it may be said here that it might have been less confusing if these three categories could in some way have been kept separate, particularly the last. It would have made a clearer picture of recent additions to knowledge.

However, the new species are marked typographically, and the tabulation is most valuable, for this is the first time that the many additions to the known cactus flora which have appeared in recent years, amounting in all to nearly 120, including varieties, have been brought together in one place. We find here the numerous Argentinians described by Spegazzini in 1925, the very large number of Coryphanthanae published by Boedecker in recent issues of the M. d. Deutschen Kakteengesellschaft, the novae of Helia Bravo, Vaupel, Fric and others, and last but not least *Echinocereus Davisii* Houghton and *Neomammillaria phitauiana* Baxter from our own pages. The latter, however, appears as *Mamillaria phitauiana* (Baxt.) Werd., as, in line with the practice still adhered to by the German botanists, as throughout the book, Britton & Rose's genera are, with some exceptions, such as *Coryphantha, Mila* and *Rebutia*, given only subgeneric rank. In accordance with this practice other changes are made, e. g. *Cereus Roseanus* Werd. nom. nov. for *Trichocereus peruvianus* Br. & R.; *Neowerdermannia* Fric is provisionally retained as a genus.

The species here newly described are as follows: *Opuntia atroviridis* Werd. & Backeb., *O. hypogaea* Werd., *O. kuehnrichiana* W. & B., and var. *applanata, Cereus* (*Cephalocereus*) *claroviridis* Backeb., *C.* (*Espostoa*) *lanatus* subsp. *sericatus* (Backeb.) Werd., *C.* (*Binghamia*) *chosicensis* W. & B., *C.* (*Neoraimondia*) *cephalomacrostibas* W. & B., *C.* (*Borzicactus*) *platinospinus* W. & B., *C.* (*Leocereus*) *eriotrichus* W. & B., *C.* (*L.*) *microspermus* W. & B., *Mila kubeana* W. & B., *Echinopsis* (*Lobivia*) *Backebergii* Werd., *E.* (*L.*) *korethroides* Werd. and *E.* (*L.*) *mistiensis* W. & B.

The illustrations deserve more than passing notice for their interest, artistic excellence and the fine quality of the half-tone work. Most impressive of all seemed to us the full-page picture of *Cereus* (*Neoraimondia*) *macrostibas* v. *gigantea* (a variety, by the way, not described in Dr. Werdermann's list; are we to assume that he does not consider it valid?). Standing among deciduous trees on a stony plain, this giant must surely vie in massiveness with anything the Cactaceae have to offer. From an enormous base a compact, upright cluster of tremendous fluted stems arises to heaven, as awe-inspiring a sight as a Gothic Cathedral. Very fine are also several pictures of other specimens of *Neoraimondia, Espostoa lanata sericata* (among the latter a marvelously crested plant from the valley of Huancabamba), columns of *Binghamia melanostele* growing from an almost vertical slope of solid rock, many little-known Cerei, and a number of interesting microphotographs (the latter by Hans Cordes), one of them revealing the spine-clusters of *Pelecyphora aselliformis* as the strangest-looking fern-frond-like structures. One of the last and finest plates is a magnificent portrait of a fruiting plant of *Oreocereus celsianus*.

Some misspellings were noted that should be corrected in a future edition, e. g. Pyrcrocactus for Pyrrhocactus, Freilea for Frailea and Oroga for Oroya. An index to the illustrations would have made a desirable addition.

No one will regret adding this little volume to his library, the list of new species making it almost indispensable to those wishing to keep up-to-date, while to those unable to read it the illustrations alone should prove worth the very modest price asked.

The attractive cover was designed by the author himself, showing him to be an artist as well as a writer, collector and botanist.

—J. W.

Fenestraria rhopalophylla N. E. Br.
Natural size. Collection of James West

Fenestraria aurantiaca N. E. Br.
Natural size. Collection of A. Burns

Fenestraria rhopalophylla N. E. Br.

By JAMES WEST

Last summer we had one of the most pleasant surprises in our entire experience with the Mesembryanthema. It was the first flowering of *Fenestraria aurantiaca* N. E. Br. Though having for obvious reasons expected something in that region of the spectrum, we thought: "Oh well, another orange Mesemb", but the beauty and distinction of the flower, when it finally appeared to view (in friend Burns' collection in San Rafael), was a revelation.

The illustrations will show very clearly the differences between this newer and rarer species and the much better known *F. rhopalophylla* N. E. Br. Apart from color, it will be noted that the petals of the flower are, at least in the specimens seen, longer by nearly half and rather more numerous than in the white species. The leaves also are very distinct, shorter, thicker, more truncate and with a larger "window", which extends quite up to the edges of the obscurely triangular tip-area. The window also reflects more, and transmits less light, with the result that the leaf-tips present a markedly whiter appearance, even at some distance, as if Nature had chosen ground-glass this time. There is not the slightest danger of mistaking one species for the other, even without flowers.

Otherwise the newer plant is very similar in habit, having the same long fusiform "sand"-roots, and being as easily divided. The species comes from Little Namaqualand. Whether it has a like habitat to its sister-species (i. e., sand-dunes near the coast, with a minimum of rainfall, but copious sea-fogs) we have not been able to ascertain.*

Many readers will have seen the picture of the same species in MESEMBRYANTHEMA (p. 213), but we do not hesitate to present our own version, because we think (with due apologies to that prince of Mesembrianthophiles, Mr. Labarre) that it gives a better idea of the extraordinary beauty of the plant.

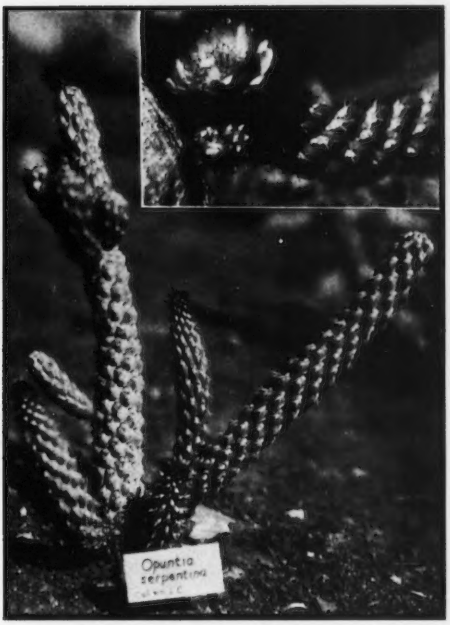
The color of the flower is in effect what could be called a soft shade of apricot (not too ripe), the ingredients being various tints and shadings of yellow, white and orange, with pink on the back of the petals. The flower is held very elegantly on a rather short stem, the petals beautifully curved. The general impression conveyed is of something more distinguished and sophisticated than the daisy-like innocence of *F. rhopalophylla.* In short we are inclined to rank it as one of the gems of the entire race.

*Since writing this, we have seen the current issue of *Monatsschr. d. D. Kakt.*, where H. Herre describes it as growing in sand dunes near Grootderm about 15 miles east of the mouth of the Orange River.—J. W.

NOTE: The following 8 pages are the 10th installment of the Britton and Rose reprint of Vol. I, The Cactaceae.

Notes on Britton and Rose

Edited by E. M. BAXTER



Opuntia serpentina.

Photograph of plant and flowering branch from the garden of Mrs. Ysabel Wright of Santa Barbara. While its tubercles often grow longer and tend to confuse identification with *Opuntia acanthocarpa* this photograph shows the typical form of the species. Its spines are sometimes much longer than shown.

Opuntia clavellina

Edward A. Goldman, in "Plant Records of an Expedition to Lower California" says of *Opuntia clavellina:*

"*Opuntia clavellina* Engelm.—Needle Cactus.

"A cholla cactus which Rose associates with this species was photographed about 5 miles north of San Andrés, between that point and Punta Prieta Ranch, while we were on our way across the Peninsula from Yubay, September 30, 1905. The species was again seen in a few places on the coastal plain between San Andrés and Rosarito. It was more strongly armed than any species previously seen along our route and owing to the difficulty of carrying such spiny material we neglected to collect specimens during the two days' travel in which it was encountered, fully expecting to find it at some of our camps where it could be more easily handled. But we looked in vain for the species at San Andrés, Rosarito, and farther southward, and it therefore seems to be one of the rarer cactuses of the region. It is remarkable for the unusual length of the spines. The type came from La Purísima." A photograph of the spines will be shown in a future issue of the JOURNAL.

Opuntia whipplei

An error in the description of this species is evident. The key to species of the Series gives: "Spines white, flowers yellow" for *Opuntia whipplei;* the description says "spines * * * *dark brown* covered with lighter colored papery sheaths". Mr. A. R. Leding, of the U. S. D. A. has made a study of the species and reports that the spines and spine sheaths of *Opuntia whipplei* are always white. Every specimen that local gardens show has white spines.

A possible cause of the error is the fact that *Opuntia parryi* is often mistaken for *Opuntia whipplei. Opuntia parryi* has dark brown spines.

Opuntia davisii.

This species is not well illustrated in Br. & R. The species is very readily recognized by its large reddish-brown spine-sheaths. They fit loosely over the spines, being several times as large as the spine. The photograph is of a plant in the garden of Mrs. Ysabel Wright of Santa Barbara. The photograph by Mr. John D. Wright.

Trichocereus litoralis (Johow) Looser. Revista Chilena de Historia Natural, año 33 (1929) 598. Published in February 1930. Photograph taken by Gualterio Looser at Papudo, Province of Aconcagua, Chile, February 7, 1932. The plants are growing almost on the beach of the ocean. The larger trunks are about one meter (3 feet) tall. The spines are short.

Cereus litoralis Johow

Translated from Looser in "Revista Chilena de Historia Natural, XXXIII: 598 1929" by Edgar Baxter, through the courtesy of Gualterio Looser.

Trichocereus litoralis (Johow) Looser comb. nov.

Cereus litoralis Johow, Revista Chilena de Historia Natural, XXV, 1921 (1923) 157.

DISTRIBUTION: Coast of Papudo, Zapallar, Cartagena, San Antonio, and Pichilemu. Endemic in Chile.

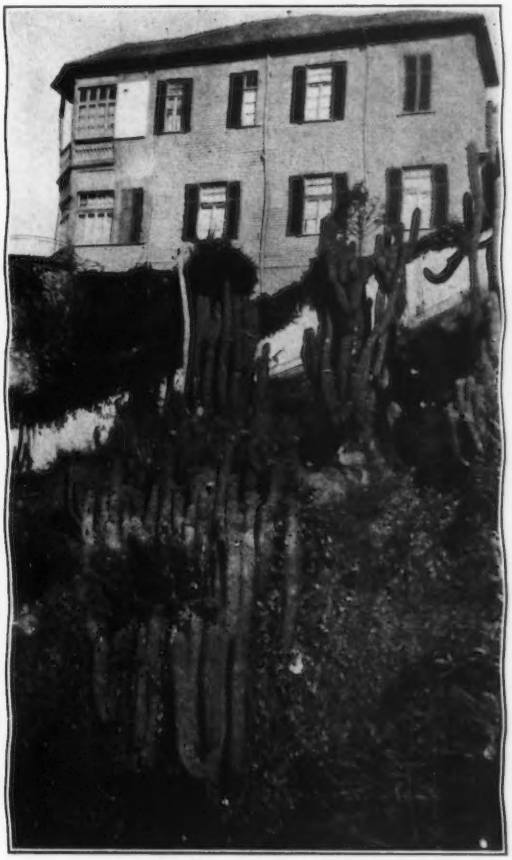
The affinity of this species with *Trichocereus chilensis** is evident, and includes it in the genus *Trichocereus*. Some differential characters given in the original description are not very exact. *Trichocereus chilensis* does not have six stigma lobes as Schumann, cited by Johow, erroneously says; but about 18 (Br. & Rose). In several dozen flowers of *Trichocereus chilensis* from the suburbs of Santiago, that I have examined, I have always found 18 to 22 stigma lobes, which is exactly the number shown by *Cereus litoralis*. Also in many (plants of) *Trichocereus chilensis* it was noted that the flowers come out on the North side, so that this characteristic attributed exclusively to *Cereus litoralis* has little differential value.

On the other hand there is a very important difference, consisting of the prostrate manner in which its stems grow, and which is very notable since it forms clusters of considerable extent—very typical and distinct from *Trichocereus chilensis*. This last characteristic relates *Trichocereus litoralis* to *Trichocereus coquimbanus*, but the latter is a lower plant with enormous spines, while the spines of *Trichocereus litoralis* are short. These characteristics seem to clearly justify the retaining of this as a species.

Dr. N. L. Britton, in a letter of April 3, 1929, assures me that the species is valid and approves my project of placing it into the genus *Trichocereus*.

Another specific difference is that the flower tube is completely covered by long dark hairs,

*I prefer the spelling *chilensis* and not the erroneous form *chiloensis* used by Britton & Rose. I do not know why they maintain this wrong form when in many parts of their work ("The Cactaceae") they have corrected similar errors, as should be done.



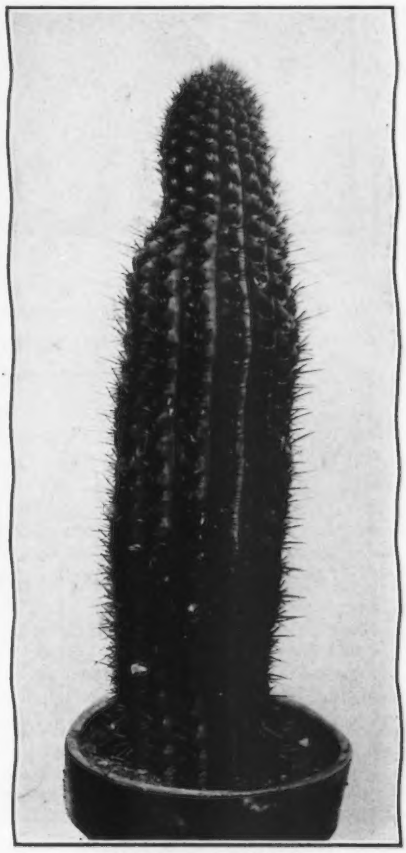
Trichocereus chiloensis
(From Br. & R. Vol II, Pg. 137)

while in *Trichocereus chilensis* the hairs are fewer and shorter and only may be seen at the beginning of the perianth divisions."

ED. NOTE: Professor Marcial R. Espinosa, B. in "Anotaciones botanicas" on page 130 of the "Boletin del Museo Nacional, Temo XIII 1930. Santiago de Chile" gives the following explanation in the interest of changing the name from *chiloensis to chilensis*: " . . . These authors (Britton & Rose) have retained the prior specific name of "chiloensis" given by Colla, even when the plant does not exist in Chiloé; in view of this latter fact it seems that many authors have believed that it could be called *"chilensis* Colla" following the specific name given by Pfeiffer. De Candolle gave Chile as the country of origin of the plant, and Pfeiffer also gave Chile with Coquimbo as the locality and with parentheses indicated the island of Chiloé. Steudel in Nomenclator Botanicus, 1841, gives the following data, page 245: *Cactus chiloensis* = *Cereus chiloensis;* on page 333: *Cereus chilensis* Aut. = *chiloensis; Cereus chiloensis.* Dec. Ins Chiloé et? Chile and as a synonym of this last he gives: *C. chilensis* Autor (the writer), *C. coquimbanus* Hort., *C. quintero* H. Goett., *C. subrepandus* Hort., *Cactus chiloensis* Colla, *Echinocactus elegans* Hort., and *E. piramidalis* Hort."

Earlier in his article Professor Espinosa shows that Colla's name was given as "chilœnsis" with a question mark after his reference to the island of Chiloé, and says that in reality the reference should be *Cereus chiloensis* (Colla) DC.

—E. M. B.



Trichocereus chiloensis
(From Br. & R., Vol II, Pg. 137)

Sr. Gualterio Looser of Santiago, Chile, has sent some seeds of Trichocereus chilensis that are offered to members of the Society. Write to Edgar Baxter, Bellflower, California, and enclose postage for a few of these seeds.

Gasteria armstrongii Schönland

A Rare *Gasteria*

By Dr. H. Cammerloher

Botanical Institute of the University of Vienna (Austria)

The *Gasteria* as shown in the above picture has been found by W. Armstrong on the river Kabeljauw near Humansdorp in South Africa and has been recognized and described by S. Schönland as a new species. He named the plant *Gasteria armstrongii* after the discoverer. Schönland knew about this plant already for several years, but he received its flowers only in the year 1912 by Mr. J. L. Drege, in whose garden (Port Elizabeth, South Africa) it had flowered. In the same year the Vienna Botanical Garden received from Mr. Drege seeds of this plant from its original habitat, from which seeds 14 new plants resulted. Nine of these plants were transmitted in the course of the years to several botanic gardens. The plant has no stem and the leaves have a two-ranked alternate leaf arrangement. The leaves stand upright in their first youth, later on they take a horizontal position, the lowest hug the earth. The shape of each leaf is ligulate, rounded at the tip and provided with a short mucro. The surface is warty. The leaves are dark olive-colored. Every year this species sprouts a peduncle, the length of which is over 30 cm., on which the blossoms are grouped in a loose raceme. The blossoms are rose-red.

For several years this Gasteria has flowered regularly in the Vienna Botanical Garden. The flowers are always artificially pollinated and also produce fruits and seeds abundantly. This plant, which counts amongst the rarest Gasterias, is, since then, represented in nearly all botanical gardens, which are exchanging seeds with the Viennese Botanical Garden, because these institutes have received from Vienna either seeds or young plants.

Among all other Gasterias this species is especially remarkable for its fleshy two ranked alternate leaves, and its peculiar beauty is an ornament of every collection of succulents.

NOTE: Dr. Cammerloher has kindly sent a package of seed of *G. armstrongii* to be divided between the University of California Botanical Gardens and members of the C. & S. S. For seed apply to James West, San Rafael. —J. W.

GREETINGS

The Cactus and Succulent Society of Great Britain was formed on March 8th with 200 members. The following officers were elected:

President: Sir Wm. Lawrence, Bt.; Hon. Sec.: E. Shurly, Esq.; Councillors: Mrs. V. Higgins, M.A., E. S. Farden, Esq., P. V. Collings, Esq., H. G. Harrison, Esq., H. Potter, Esq., Rev. H. T. Marrable, F. W. Tyler, Esq., Capt. E. J. W. Noakes, J. Haddon, Esq.

It was decided to commence a library of books, photographs, catalogues, etc., and the readers of the CACTUS JOURNAL are requested to co-operate with our fellow Society by sending material of interest to them. Address Secy. E. Shurly, "Pilatus", The Mall, Park St. Lane, nr. St. Albans.

Idria columnaria Kellog

By HOWARD E. GATES

To me the strangest plant of Lower California, Mexico, is the monotypic genus, *Idria columnaria.* It has been described by many similes varying from an inverted carrot root to a living telegraph pole. My preference is for the telegraph pole simile, as it grows in the same approximate dimensions. Plants may reach a diameter of two feet at the base and taper upward to a height of forty feet. Usually it is single stemmed, but sometimes the central stem divides into two or more parallel upright stems. The true branches are about two feet long at the base of the plant, gradually shortening to six inches in length towards the top. They are nothing more than spiny twigs bearing numerous small green leaves which they shed at the approach of dry weather. In the summer the small creamy-white flowers appear on longer twigs which encircle the very tip of the plant, resembling the cross arms of a telegraph pole. I have never had the good fortune to observe the seed.

The bark of the plant is thick and punky. Just beneath the bark is a thin cylinder of woody fiber which is the skeleton of the plant. These cylindric skeletons form very picturesque garden ornaments as they bleach white and have many holes without curved edges which occur at the base of the branches. The inner portion of the living cylinder is filled with pith and of the dead ones with tarantulas, lizards, spiders and other creeping things. In times of extreme drought the natives often fell the trees and split them open so their cattle may gnaw out the moist pith. This is the only use I know the natives to make of them.

The plant is related to the *Fouquierias* or Ocotillos. The only place in which it grows is the interior of the Lower California Peninsula from the Thirtieth Parallel southward for about a hundred and fifty miles to the neighborhood of Calmallí. This is the driest portion of the whole Peninsula.

In many places the Idrias with *Pachycereus pringlei* are very plentiful, dominating the landscape. When such is the case it is a weird sight, making it appear as a vista from another world.

Any plant lover venturing down the west coast of Lower California as far as the mission and village of El Rosario, should not fail to follow the road for another fifteen miles inland to the foot of the San Jorge grade where the Idrias and Pachycereus are first found in abundance. There are plenty of Agaves, Dudleyas and Ferocactus *"Californicus"* to make the trip interesting without these two major features.

Notwithstanding newspaper reports to the contrary, there is more than one specimen of *Idria columnaria* in Southern California, though it is far from being plentiful and is unknown to the majority of our gardeners. There are two very small specimens in the Blakesley Botanic Garden at Santa Barbara. The best specimen that is available to the public is in the Cactus Gardens of the Huntington Art Gallery at San Marino. I suppose this plant is about twenty feet high. It has much longer branches and bigger leaves than are found in the wilds as our climate and cultivation appear to agree with this species. Of the few in private collections the best specimen is in the garden of Edward Mendel in Hollywood. There are two about three

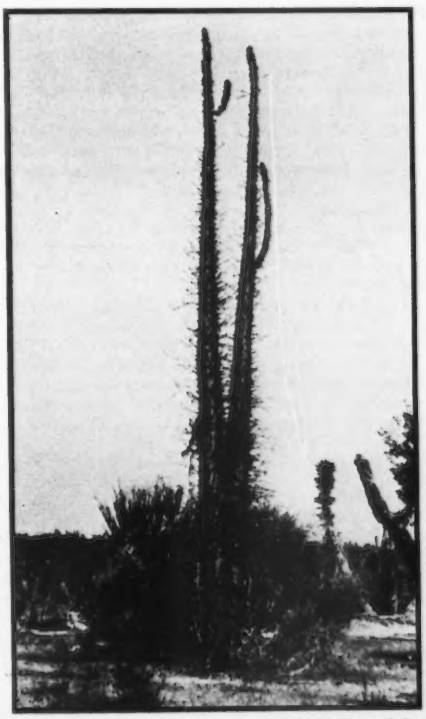


Photo by Howard Gates

Idria columnaria Puénta Prieta, Baja, Calif.

feet high in my collection at Anaheim, and three plants of the same size are in the collection of Dr. Donald A. Johansen at Stanford University.

EDITOR'S NOTE: A report, supported by evidence in the form of photographs, has just come of the discovery of a small grove of *Idria columnaria* somewhere in Sonora, on the Mexican mainland. The plants are much larger, but not quite so tall, in Sonora. The authenticity of this report needs, however, to be confirmed by competent observers. Dr. Johansen reports the interesting discovery that the Idrias produce two distinct types of leaves, a fact which none of the taxonomists mentions. One type is the ordinary kind of leaf, which drops off after a short period; the other is merely a flattened branch with the appearance of a leaf and borne at the apex of a long petiole whose midvein shortly develops into a typical spine. Microscopical studies of these two types of leaves are now in progress and will shortly be reported in the JOURNAL.

E. M. B.

Book Review

THE FANTASTIC CLAN. By John James Thornber and Frances Bonker. XXIV + 194 pp., 50 figures, 4 col. pl.—*The Macmillan Company,* New York, 1932. $3.50.

In any field of science there is ample room for popular, non-technical books. But the standard of popular-scientific literature has become so high of recent years that we can not, with the best will in the world, assign to the volume before us a very exalted place in that category. Such style and treatment might conceivably pass muster in a Sunday Supplement, to be read once and forgotten; but that even the most ignorant reader could gain from it much of permanent value, we must be permitted to doubt.

Unfortunately the fact that a Professor of Botany appears on the title-page as one of the co-authors will cause it to be taken more seriously than its merits deserve. Otherwise we might have charitably covered it with the mantle of oblivion.

The book, to judge from the sub-title, attempts to give a survey of "all the most important groups of Cacti known, with scientific accuracy", this survey, such as it is, being inextricably and most confusingly intermingled with rather verbose impressions of desert "atmosphere" (sparing us neither "Then comes the dawn" nor a reference to the Olympic Games). The chapter-headings seem to have only a very obscure relation to the contents, "A Desert Fashion Show" applying to the Cereanae, "A Desert Graveyard" treating of the Echinocactanae, while "The Painted Canvas of the Desert" is concerned with the Platyopuntias. In the descriptive parts the book is wearisomely repetitious. For instance, in the review of each group a number of cacti are first described under "Growth and Habitats", species by species, then, without warning, except for an interposed totally unrelated "atmospheric" paragraph, the entire series is repeated, again species by species, only that under each are given two subheadings, very awkwardly worded "How to identify and how it grows" and "How to grow". Under the first sub-head the descriptions in the earlier part of the chapter are repeated, often almost word for word; "How to grow" gives instructions, a paragraph, distinct and separate, for the cultivation of, for instance, each and every native species of Echinocereus mentioned, likewise for each and every Opuntia.

The upshot of it is that these cultural hints are apt to leave a novice with little more than a hazy impression that practically any species of cactus can be grown successfully out-of-doors wherever the thermometer does not drop too far below zero, not a word being said about rainfall. We foresee a sudden rise in the mortality-curve of cultivated cacti throughout the temperate zone, if this book becomes a best-seller.

Our space does not permit us to go into details, but we could fill many paragraphs with the errors and inaccuracies noted. "Thorn" and "spine" occur interchangeably throughout the book, habitats are often ridiculously misplaced (e. g. "California's Pincushion", alias *Phellosperma tetrancistra,* apparently being abundant in the foothills back of Los Angeles) and so on. The only really new contribution to cactus-lore to be found in the book is the coining of a popular name for every single species mentioned, (including the assignment of gender, on what basis we were unable to discover). The authors have indulged their fancy to the limit. Samples: Popular Cholla (popular with tourists), Cursed Cholla, Cream Cactus, Cream Pincushion Cactus, Harem Cactus. Where good common names already existed, the authors have not been content to leave well enough alone, but have either added to the number or transferred them to other species. "Old Man" is given the "synonyms" of "Bunny" and "White Persian Cat Cactus" (from the text we must gather that these "cute" appellations are current in Hidalgo, or perhaps Guanajuato); our old friend Fishhook appears as the name of both *Ferocactus wislizenii* and *Sclerocactus polyancistrus,* to make confusion worse confounded; we find a second Christmas Cactus in *Opuntia leptocaulis,* and another Queen of Night in *Peniocereus greggii.* The authors seem to bear a particular grudge against *Bergerocactus emoryi;* not content with twice misspelling its Rosean name (Britton & Rose, by the way, are almost completely scorned in the book), they christen it the "Prohibition Cactus" (Why?—Because it likes it dry) and brand it as unattractive.

Although the bulk of the book is concerned with native species, two or three exotic ones are added, but little is said to make an uninformed reader gain any appreciation of cactus-distribution in the Americas, the two greatest centers, the Mexican and South-American, being as good as ignored. To call this "treating all the most important groups of cacti known with scientific accuracy", is, to say the least, an exaggeration.

At the end of the book we find a Glossary, defining among other things, Buenas Noches, shrub, trek, a Pronouncing Vocabulary, telling us carefully how to pronounce, e. g. Sonora (so nor' a) and MacDougallii (mak doo' gal e), also an index. No Bibliography is provided, which might have led readers on to further information.

In short, we are sorry to say that we regard THE FANTASTIC CLAN as below the standard we would like to have prevail in our field. We tried to approach it in imagination as a complete novice, so as to give a fair appraisal from the standpoint of the general reader: all we gained was a chaotic impression, leaving the imaginary seeker for knowledge rather more

bewildered than he was before. If we have indulged in sarcasm, we must plead in extenuation that the temptation was well-nigh irresistible.

The make-up of the book is, with the exception of an attractive binding, not notable for quality. Some of the halftones are good, but the color work is indifferent, and probably does not do the artist justice.

It so happened that in the same week we received two other new books on the subject of Cacti, one from little Denmark, the other from distressed Germany: the comparison was not flattering to American pride. —JAMES WEST.

AND FROM INDIANA

It is unfortunate that a review of a book dealing with the *Cactaceae* must begin and end with several criticisms for with the recent revival of interest in this order of plants thousands of enthusiasts are searching for books that will give them an understandable yet scientifically exact account of the "beautiful enemies." In the volume at hand the older continental nomenclature has been used throughout while that of Britton and Rose has been relegated to a minor position or in many cases omitted altogether. In addition the authors have seen fit to burden each plant described with a common name thus perpetuating the Night Blooming Cereus curse, this term being applied to any cactus blooming after sundown whether it be a *Cereus* or an *Epiphyllum*. That common names are justified in a number of cases needs no argument but it is well known that the average individual in formulating his practical botany of indigenous flora is able to recognize types only; thus any flat jointed *Opuntia* is a prickly pear and any of the hemispherical *Neomammillarias* or *Coryphanthas* is to him a Devil's pincushion. Few species indeed are sufficiently different from all others to be unique in the eyes of the native, the common names of these should be preserved but when we find *Opuntia engelmannii* called Engelmann's prickly pear and *Bergerocactus emoryi* as the prohibition cactus (because "he likes his home place dry") we are justified in respectfully but firmly calling a halt. In addition the authors have discovered, but do not describe, some method of sex differentiation among the cacti for of the species described several are "he's", a select few "she's", while the remainder must be content to go through life as neuters.

The majority of the chapters are divided into three parts, in the first are found highly literary descriptions of a number of related cacti, then follows an *olio* after which comes a concluding section in which plants previously described are redescribed in a more or less scientific manner together with cultural hints. Over 70 species are considered, most of them native to the United States. An appendix furnishes a glossary of terms in which one may find definitions of translucent, mesa, and trek. An areole is defined as an "area or center of growth" which can hardly be considered satisfactory. A pronouncing vocabulary is also provided but a key to the symbols employed is omitted. —ROBERT F. RUTHRUFF.

SYMBIOTIC RELATIONSHIPS

Symbiotic relationships between ants and cactus should furnish an interesting field for investigation, if the matter has not already been studied. Near the ends of the areoles of *Ferocactus wislizeni* and *F. acanthodes* may be found minute rounded excrescences resembling incipient buds, which evidently secrete some sweetish substance, since the small red fire ants continually visit them and appear as if feeding. In our garden is a clump of several small specimens of *F. acanthodes,* and at the apex of one of these a colony of fire ants has established its home, consisting of a heap of fine sand penetrated by passageways. It is reasonable to suppose that the ants perform some service, such as ridding the cactus of insect enemies, in return for food which seems to be provided for their especial use.

Also there is a species of bee *(Anthophora?)* which appears to feed exclusively from cactus flowers. It is about the size of a honey bee, stout-bodied, woolly and grayish, with the abdomen narrowly barred. Towards evening it will snuggle in among the stamens and wait for the closing petals to furnish it with a cozy retreat for the night. In the daytime, however, the cactus blossoms sometimes become a source of danger rather than a refuge, for assassin-bugs often lurk there to seize any unwary bee which may venture within reach.

The monthly accretions to the reprinted "Cactaceae" are a source of much gratification, and I trust that nothing will be allowed to interfere with the completion of the entire work. I wish, however, that we might have some additional notes clarifying the descriptions of the Arizona *platyopuntias,* as I have been unable to identify many of them, and cannot believe that the difficulty is entirely due to my own lack of botanical training.

ROBERT S. WOODS.

ENGLAND'S APPRECIATION

BOOK REVIEW—Journal of the Royal Horticultural Society, London, England. September 1931. THE CACTUS BOOK. Dr. A. D. Houghton.

This little book of 137 pages and 18 illustrations strikes one at first sight as best suited to an American purse, but a careful reading will reveal so many good and unusual qualities that, for anyone wishing to begin at the bottom and learn how to appreciate and grow good cacti, it would prove a bargain.

It would be a good idea if every incipient gardener were obliged by law to pass an examination in the contents of this book before he began to talk about flowers. The writer has a very pleasant way of explaining every point as he goes along. Listen to this: "Species is both singular and plural; you may say 'one species' or 'ten species'. The word 'specie' has no place at all in a discussion of plants; it refers only to gold."

The directions for seed-raising, grafting and planting are clear, brief and thoroughly practical and simple to carry out. There is a chapter on crested, variegated and monstrose forms; another on labelling, catalogueing and literature—equally good. A conspectus of desirable species fills 30 pages of small print.

The book is well printed, remarkably free from errors and a splendid example of the masterly treatment of a great subject in a small handbook.

EDITOR'S NOTE: This book has added a great number of friends to The Cactus and Succulent Society of America. We trust that the contacts will continue to increase as this book covers the world. —S. E. H.

THE CACTUS AND SUCCULENT SOCIETY OF AMERICA

An International Society for all lovers of Xerophytes
Headquarters: LOS ANGELES, CALIFORNIA

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By MARY NORWOOD LAWRENCE
376 N. Ave. 57, Los Angeles, Calif.

Even the State takes a hand. The California State Highway Commission is doing something of great moment on its ten-acre rock garden at the top of the grade between Barstow and Yermo, on the new road to Las Vegas. The plants are correctly named and planted, with Britton and Rose as the standard. The superintendent in charge has given his time to some purpose. Another cactus garden is being planted by the highway workmen on the other road toward Thermo; and down in the valley we find the El Centro Field aggregation doing yeoman service for cactus, investigating and studying the plants in their native habitat.

As for individual collectors, we have a man out in Hawthorne, who began to sit up and take notice about two years ago, and today has a most amazing collection of rare and unidentified plants known to the Patcher, and she has seen many gardens. His name is Carl Seelbach and he is always pleased to show his treasures to students and friends who are interested in the native cacti. Associated with him is Dr. Lowry of Laredo, Texas.

Otto H. Roller of New Jersey once sent us a casual reference to the fact that Sansevieria zeylanica can readily be obtained by propagating from portions of the leaves of the variety Laurenti, the true Laurenti only being obtainable by division of the crowns. This peculiarity has long been known but its mystery has not been explained. And since S. zeylanica is a native of Ceylon known from 1731 and S. laurenti is credited to the Congo, 1904, the fact that the former can be secured from the latter merely by a certain method of propagation calls for explanation.

While it is known that so-called new species have come about through grafting it has never been stated that new species can originate through the mere influence of rooting leaf cuttings.